N A R R A T I V E R E P O R T

STILLWATER WILDLIFE MANAGEMENT AREA

SEPTEMBER - DECEMBER
1951

PERSONNEL

LeRoy W. Giles - - - - - - - - - - - - - - - - - Refuge Manager
David B. Marshall - - - - - - - - - - - - - - - Biologist
Illa E. Cress - - - - - - - - - - - - - - - - - Clerk (Typing)
Arthur V. Huff - - - - - - - - - - - - - - - - - Automotive Mechanic (General)
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I GENERAL

A. Weather Conditions

In looking back over the period, the weather seems to have been all bad. Actually, it wasn't entirely disagreeable. The water and mud, that persisted from one rain to the next, have influenced our impressions of weather conditions. We have had our share of clear skys and warm days. Unfortunately, we just did not get enough of this type of weather to completely dehydrate our waterscaked soils. Road conditions have alternated between poor to impassable, and off-the-road conditions were even worse. During the period, 10 working days were lost because of mud, and much time was spent in extricating trucks and heavy equipment that failed to stay on top.

A general freeze-up occurred on December 6. A skim of ice had been forming, nightly, along the marsh edges for a week prior to this time, but the ponds had not iced over completely. Since December 6, ice has covered practically the entire marsh and, in general, has been thick enough to support a person's weight.

Month	Precip.	Miles of Wind	Max. Temp.	Min. Temp.	Mean	Evap.
September	.00	808.4	94	35	63.8	4.78
October	.99	1361.8	83	22	49.5	3.23
November	.60	1399.2	70	12	41.1	1.71
December	.82	2109.0	58	8	32.0	.67
Totals	2.41	5678.4	94	8	46.6	10.39
40 year Average	1.89	6359.8	92.8	3.1	45.9	11.98

B. Water Conditions

Throughout the period water levels in the west side of the marsh have been so high that concern was felt for the safety of new dikes and structures. Water was withheld from the Nutgrass and Pintail Bay Units to facilitate construction work thus eliminating any outlet for the release of surplus water. The situation was aggravated by an abnormal inflow into the marsh. Irrigation demand this year has been greater than at any time in the history of the Newlands Project, and the release of drain water has been proportionately large. This year, during the irrigating season alone, we released 44,000 acre feet of water from Stillwater Point Reservoir as compared to a total of 36,000

acre feet for the same period a year ago. This water had to be held in the marsh until late fall before any of it could be dumped. By November 7 the work on Pintail Bay Dike was sufficiently complete that water could then be turned into the Pintail Bay Unit. The first flashboards were removed on that date after which the flow was gradually increased to a maximum of 130 cfs. It required a few days only for the 1400 acre Pintail Bay Unit to fill and overflow. Then the water flooded the pockets and channels of the sand dune area to the north and poured out onto the Carson Sink. An aerial reconnaissance, made December 17, revealed that this Pintail Bay overflow had moved westward along the south edge of the Sink and was connected with Carson River water in the Pelican Island marsh.

Because of difficulties encountered in the construction of marsh structures No. 2 and 3, resulting from the heavy flow of water through the Foxtail drainage, it was necessary to reduce the rate of discharge from Stillwater Point Reservoir. On August 20, therefore, the discharge was dropped from 110 cfs. to 91 cfs. This was less than the rate of inflow so that the Reservoir soon filled to maximum capacity. By September 25 it was no longer possible to store water and the gate was opened to permit a release of 137 cfs. Normally, the fall water supply starts dropping rapidly in August and September, but the drop came much later this year. It was not until the latter part of October that we were able to reduce the excessive volume pouring into the marsh. Listed below are the dates when the Reservoir outflow was changed and the rate of discharge with each regulation of the outlet gate.

September 25	137 cfs.
October 29	91 cfs.
November 1	65 cfs.
December 17	50 cfs.

The flow through the Reservoir constitutes only about 60 per cent of our total water supply. The rest comes through the Canvasback Gun Club and the Paiute Canal. The volume of water from all sources was probably equal to that which we were releasing into Pintail Bay until some time in early December. It was not until after mid-December that the effects of dumping water began to be apparent. Actually, water levels continued to raise in the extreme western portion of the marsh until late December due to the retarding effect of plant growth in the marsh channels.

C. Fires.

No fires occurred during the period.

II WILDLIFE

A. Migratory Birds

1. Population and Behavior

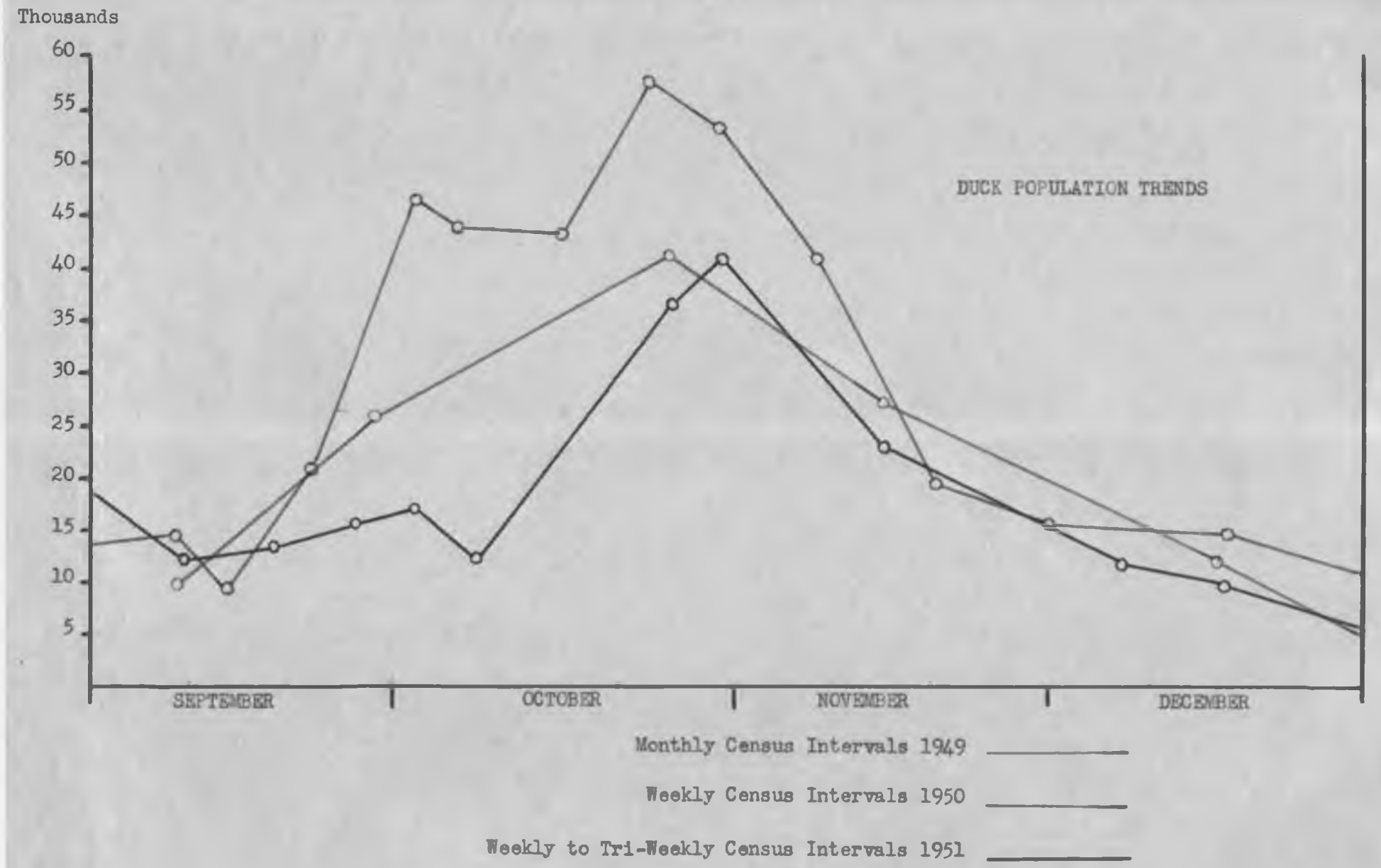
This period brought the same census method problems as for the same time last year, only worse. From October on, water levels rose in the Stillwater Marsh to the point that its margins became flooded at almost all points, making it impossible to sample much of the marsh proper. Censusing then became an airplane job exclusively. By using both the Federal and State aircraft we managed to average a waterfowl census every two weeks, as opposed to the usual weekly intervals.

The accompanying graph shows duck populations for the period as running below normal. Actually, the reverse was true for the rest of Lahontan Valley. Our low populations can be attributed to the drying up of the Nutgrass Unit and Big Water which usually carry the bulk of our ducks. Excluding these two areas, the rest of the marsh supported higher than normal populations like the rest of the valley. During most of December, ice formed over most water areas, but a surprisingly large number of ducks stayed on although their numbers fell below those of 1950, which was relatively a mild winter.

Like 1949 and 1950, the duck peak of the year occurred the last of October, but the relative abundance of the various species was entirely different. This year, shovellers were way in the lead while pintails normally make up the bulk of our fall population. This was not true elsewhere in the region. A census made of the Lovelock and Humboldt Sinks on October 22 showed pintails way in front with other species showing up like they did on the Stillwater Area in 1950. This information is shown in Fig. I.

Overall waterfowl numbers ran from 13,171 to 53,163 as compared to numbers from 20,230 to 65,089 for the same period in 1950. At times much of this was made up of coots.

Ducks used practically the entire flooded portion of the Stillwater Marsh to about the same degree with but two exceptions: 1. As usual, little use was made of the deep ponds in the old permanent part of the marsh where no food is present. 2. Two concentration points of the Stillwater Marsh were the Stillwater Point Reservoir which was used as a resting area for ducks feeding on adjoining farmland, and a small portion of the Big Water which became flooded for a short period from water sent down the east flat via the East Canal. Outside the Stillwater Marsh, heavy use was made of the Pelican Island Marsh. Use of the Indian Lakes was normal, except on September 10, when a heavy concentration appeared. Relative duck use of various areas is shown in Fig. II.


Thousands
60
55
50
45
40
35
30
25
20
15
10
5
DUCK POPULATION TRENDS
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
Monthly Census Intervals 1949
Weekly Census Intervals 1950
Weekly to Tri-Weekly Census Intervals 1951

Species	Stillwater W. M. Area Oct. 26 1949	Oct. 24 1950	Oct. 22 1951	Toulon & Humboldt Oct. 22 1951	Carson Lake Oct. 22 1951
Mallard	3%	11%	5%	5%	10%
Gadwall	18	13	1	2	
Baldpate	13	19	4	17	15
Pintail	57	38	19	50	40
G-W Teal	2	4	16	16	20
Cin. Teal	1	1	.5		
Shoveller	2	10	53	8	10
Redhead	2	3			
Canvasback	1	.5	1		
Ruddy	1	.5	.5	2	
Other					5
Total Numbers	41.100	57.960	36.225	60.000	30.000

Fig. I. Duck populations by percentages of total at two areas elsewhere in the Lahontan Valley as compared to the SWMA on the same day and at practically the same time in 1949 and 1950. Peak duck populations in this area occur at about this time. Note the high percentage of shovellers on the SWMA in 1951 as opposed to 1949 and 1950, and the other areas where pintails consistently predominate. Difference in ducks on SWMA in 1951 can in part be attributed to the drying up of the Nutgrass and Big Water Areas, favorite habitat for pintails and baldpates.

Date	Stillwater W. M. Area Refuge	Open Area	Pelican Island	Indian Lakes	Total Number
Sept. 10	21.71%	29.03%	29.22%	20.04%	11,977
Sept. 18	13.99	55.73	17.57	12.71	13,656
Sept. 26	22.08	57.78	1.28	18.86	15,587
Oct. 2	14.11	77.00	.06	8.30	17,184
Oct. 8	10.25	76.68	4.10	8.96	12,181
Oct. 22*	53.83	36.99	6.76	2.42	36,225
Oct. 31*	53.00	42.57	3.71	.71	41,067
Nov. 15*	35.00	44.28	15.18	5.54	23,713
Dec. 7*	16.80	37.31	27.77	18.95	11,952
Dec. 17*	86.57	8.45	4.83	Trace	10,352

* Open hunting season

Fig. II. Relative duck use of various parts of Area expressed in Percentages of total number on Area.

Data by species for waterfowl and by groups for other species follows.

Whistling Swan. Present through September and early October was one swan which appeared at various places in the vicinity of Swan Lake. This is presumably the same bird seen on June 21 in the Nutgrass Unit. Presumably this lone bird was a cripple.

Our first flocks of wintering swan appeared on October 31 with only 64 birds as compared to the 129 seen on October 24 the previous year. By November 15 of this year we had about 500 swans and by December 17 their number stood at 700. This represents quite a drop over 1949 and 1950 when up to 1200 swans were present in December. This reduction can also be attributed to the drying up of the Nutgrass Unit and Big Water, which normally support about half our swans. High water levels elsewhere in the marsh probably made it difficult for them to secure sago pondweed tubers.

Canada Goose. Canada goose numbers ran from 580 to 1200 which is about the same as last year. During the early part of the period their numbers fluctuated up and down with a definite build-up in December. These birds made little use of the public hunting portion of the Stillwater Marsh. Greatest numbers concentrated on the Stillwater Point Reservoir. Other concentration points included Foxtail Lake and the Pelican Island Marsh. The Stillwater Point Reservoir birds fed on adjoining farmland and in order to census them the farmland had to be checked as well as the Reservoir to get all of them. The Foxtail Lake birds fed in the East Pasture and the Pelican Island geese at the Leter ranch.

White-fronted Goose. Three were seen on October 22, and two were checked through the checking station on October 21. A few of these geese pass through the Lahontan Valley each fall.

Snow Goose. These birds came in a little earlier this year than last, the first ones appearing on September 27, when 60 were at the Stillwater Point Reservoir. Their numbers rose to a peak of 10,000 on October 31, but after November 15 no more were seen. They concentrated on the Stillwater Point Reservoir, Foxtail Lake, the Big Water during the short period it was flooded, and at Pelican Island on various occasions. The greatest number of these birds seen last year was 2,600, but they stayed on later. However, what figures we do get on these birds doesn't mean much. These birds shift back and forth between Carson Lake (Greenhead Club) Pasture, Walker Lake and our Area in various numerical combinations. One day large numbers will be present on the Area but the following day they may be absent only to return again sometime on the third day in fewer, or larger, numbers, etc. Census days would have to come far more often to obtain any comparison of their use of the Area from year to year.

Mallard. Mallard numbers ran anywhere from 650 to 8025. Last year their numbers ran from 2,000 to 9,000. Like last year, these birds concentrated at the south end of the Stillwater Point Reservoir during the day. At dusk they fly out to nearby farmland to feed and return during the morning. This year's high of 8,025 occurred on December 17. It represented almost entirely one flock of mallards at a pool in the ice on the Reservoir. These birds made up roughly 80 percent of our duck population on that day.

Gadwall. Numbers ran up to 3,240 on November 15 and as low as 50 on December 17. Last year's peak was 7,500 on October 24.

Baldpate. Here we had a radical change over 1949 and 1950. The greatest number of baldpates tabulated this year was 1,350 on October 22 whereas peak populations for 1950 stood at 20,000 and for 1949, at 5,500. In October of 1950 the baldpate was usually the second most abundant duck while this year it stood near the bottom. On the December 17 census of this year only two baldpates were seen.

Pintail. Pintail numbers ran from 20,251 on October 31 to 1,100 on December 17; but on all dates other than October 31, their numbers stood at less than 10,000. In October, 1950, their numbers consistently stood well above 10,000.

Green-winged Teal. Their numbers rose from 1,150 on September 19 to 5,650 on October 22 and down to 550 by December 17. This is about what happened last year.

Cinnamon Teal. This bird is our second most abundant nester, but like last year was represented by only 100 to 800 birds during September and October. None were seen after October.

Shoveller. Our shoveller population stood at 500 on September 19 and gradually rose to a peak of 19,000 on October 22 and then down to 400 on December 17. From 400 to 5,500 were seen last year so we had quite a change here.

Redhead. As with previous years, the redhead which makes up over 50 percent of our nesting duck population, all but disappears by the first of September. Last year, however, we had a mid-October migration of redheads through the Nutgrass Unit, but nothing was seen of such a migration this year. Through the period we had fewer than 200 of these birds.

Canvasback. We had a better than normal Canvasback year with up to 1,700 of these birds being present on October 31. Rather than concentrating in big flocks on the refuge like in previous years, they appeared in small groups through the marsh so hunters could get a good crack at them. "Can" numbers declined from October 31 on, whereas last year they didn't reach their peak of 800 until late December.

Scaup, American Golden-eye and Bufflehead. These birds were only occasionally recorded. Never more than 50 of any one of these species were noted.

Ring-necked Duck. One was checked through the checking station on October 28 and another on November 4.

White-winged Scoter. This species, strangely, is occasionaly recorded here. One was checked through the checking station, which is operated by the Nevada State Fish and Game Commission, on November 4.

Ruddy Duck. Never more than 300 ruddies were recorded, which is normal.

Hooded Merganser. A female was checked through the State's checking station on November 24.

American Merganser. These did not appear in substantial numbers until early December when 150 were seen. Last year they appeared in mid-November and by December 18th, 400 were noted.

Coot. Of all waterfowl species, coot numbers were highest with over 30,000 being recorded on September 19. By the last of December our coot population stood at less than 2,000. The greatest number of coots listed for 1950 is 14,000 on September 15 and 22.

Grebes. During late September and early October over 200 eared grebes were estimated to be present in the Indian Lakes and flooded alkali weed flats of the Stillwater Marsh. Through the period Western grebe numbers gradually declined. Occasional pied-billed grebes were seen. On October 16, ten dead Western grebes in various stages of decomposition were found on Foxtail Lake.

Pelicans and Cormorants. As in the past, pelican and cormorant numbers gradually dropped during the period. Twenty white pelicans standing on the ice on the Reservoir on December 7 were the last pelicans seen. Double-crested cormorants were not seen after November 7.

Herons, Egrets, Bitterns and Ibis. As is normal, the various species under this group either declined in numbers or migrated out, altogether, as winter approached. Great blue herons stay with us through the winter but do not appear to be as abundant as in summer. For the first time American egrets were seen in substantial numbers. The most seen in one day was 12 on September 19. Snowy egrets were last seen October 8 as were black-crowned night herons. Larger numbers of bitterns than usual were seen. White-faced glossy ibis stayed longer than usual. Four were seen on the Area as late as September 26 and 200 were seen as late as October 2 outside of Fallon.

Shorebirds. The dry to semi-dry state of the Big Water kept shorebird numbers below normal. The dowitchers, peeps, marbled godwits, avocets and Wilson's phalaropes, which are usually still present in substantial numbers in September along the Big Water's edges either did not appear or turned up elsewhere on the Area in token numbers. A few killdeers remain all winter. Spotted sandpipers were seen along the canals in the vicinity of Structure No. 5 in September. Greater-yellow-legs were seen on November 29 in the Indian Lakes. A small flock of avocets stayed with us until at least November 15. Small flocks of northern phalaropes were seen in September and October in flooded alkali weed flats.

Gulls and Terns. A flock of gulls, numbering less than 100 birds, could be seen somewhere in the marsh most of the period. Ring-billed gulls were the only species identified. No Forster's or black terns were seen after August. Caspian terns pulled out early too, the last ones being seen on September 19.

2. Food and Cover

With the drying up of the Nutgrass Unit and Big Water, the natural food supply fell way short of normal for this period. These two units are normally the best two food producers in the marsh. Rather than being able to feed on the alkali bulrush, akenes of sago pondweed and Ruppia maritima that these two units furnish in abundance, the ducks were forced into other parts of the marsh where sago pondweed growth was below normal because of practically permanent water in recent years. Other foods used in this part of the marsh include hardstem bulrush (Scirpus acutus), saltgrass (Distichlis stricta) rabbit-foot grass (Polypogon monspeliensis) and common spikerush (Eleocharis palustris).

To offset the shortage of natural foods, we had for the first time a waterfowl food supply in the East Pasture. This consisted primarily of barley, rye and sweet clover. Several hundred honkers fed each day in the pasture as well as ducks during irrigation. The barley was gone by October, but the geese continued grazing grasses and clover in the pasture through November.

As for cover, we only repeat ourselves by saying our problem is one of how to get rid of the stuff, at least on most of the marsh.

3. Botulism

Less than 100 ducks died of botulism or a similar disease in a flooded alkali weed area near the junction of the Navy Cabin Road and Lead Lake Canal, about October 20. The outbreak came up suddenly and ended just as fast.

4. Lead Poisoning

No losses which could be attributed to lead poisoning were observed.

B. Upland Game Birds

Sporadic use is made of the Area by California quail where the Area joins private farmland.

C. Big Game Animals

None observed.

D. Fur Animals, Predators, Rodents and Other Mammals

1. Fur Animals

A. Muskrat

The 1951 muskrat inventory of the Stillwater Marsh showed another substantial increase in the population. The ground inventory, made October 9, 10 and 16, with Fred Wright, State Waterfowl Technician, cooperating, served as a basis for population determination. An aerial house count made November 15 served as a check on the figures obtained from the ground.

The ground inventory was conducted the same as in 1949 and 1950, with the same ponds as samples. The technique consists of following the marsh perimeter of key ponds and channels with a boat. Feeding stations and houses are counted. An increase in these signs, roughly double last year, indicated a corresponding increase in muskrats.

Using this as a basis, the 1949 population was estimated at 1,500, the 1950 population at 6,500 and the 1951 population at 10,100 "rats".

Because houses are almost completely obscured in the rank growth of our cattail marsh, the aerial house count is of value in determining trends, but cannot be used as a basis for establishing actual population figures. The house count figure for 1950 came to 301 and for 1951 to 1126. These figures show a greater increase than our population figure because the Reservoir-Foxtail trapping unit, where practically all houses can be seen, had a much heavier

population increase than the remainder of the marsh where probably less than one-tenth of the houses are seen from the air.

Despite the heavy increase in muskrats over the marsh as a whole, we lost an undetermined number in the Sutgrass Unit when it was dried up in September for construction purposes. A trip into this unit in early October showed that many, or all, of these muskrats did not move out, but stuck it out until their death. Large numbers of dead and almost dead "rats" were discovered here in early October.

B. Other Furbearers

Our only other furbearers are badgers, one of which seems to have taken up residence in the East Pasture.

2. Predators

Coyotes are all that were seen under this category. Several were seen along the eastern border of the Stillwater Marsh. These animals drift back and forth between the east edge of the marsh and the Stillwater Range.

3. Rodents

High water again flooded saltgrass borders this year. This drives our meadow mice to higher ground where they are more exposed to predators. As the Pintail Bay Unit was flooded, a line of marsh hawks stayed just ahead of the approaching water. Presumably, these hawks are cleaning up on good numbers of rodents.

E. Predaceous Birds

We are troubled little by predaceous birds, although the prairie falcon poses as a threat here. One was occasionally seen during the period and these birds have become more numerous than formerly. A small flock of ravens inhabited the marsh during the period and the usual bald eagles frequented the Indian Lakes, Carson River and Pelican Island areas in good numbers. One bald eagle was seen on the ice of the Stillwater Point Reservoir feeding on the carcass of a Canada goose, a hunting cripple which died before the eagle began feeding on it. At two other locations bald eagles were seen feeding on Canada goose carcasses.

F. Fish

Observations were limited to catches made by fishermen. As a whole, large-mouth bass fishing was not as good as it was during the same period a year ago. Catfishing, on the other hand, was up to normal with many good catches reported.

III DEVELOPMENT AND MAINTENANCE

A. Physical Development

For the period, as a whole, working conditions have been fair only. Mud has been the biggest drawback. On several occasions it has prevented access to marsh construction sites.

Progress on the various construction projects is summarized briefly below under the appropriate job headings.

Pintail Bay Dike and Dike Extension. Complete except for dressing the extreme north end. The motor patrol bogged down at this task, and the fill has not dried sufficiently to permit resumption of the work. The dike was built of dry dirt which then became rain-soaked.

Nutgrass Dike. Work was started on this dike in November. The 48" elevating grader made a start on the higher ground at the extreme west end but had to be pulled out after about a week because of mud resulting from the frequent rains. The Lima dragline started at the same time and has been working on mats on the "Big Water" crossing. It has cast the north side of the dike between stations 27+00 and 44+00. The dike is too wide to complete with one cast so that the other half will be thrown up from the opposite side on the return trip.

Dike at Structure No. 2. A dike 1700 feet long necessary to impound Foxtail Lake waters when this lake is raised to proposed level. The dike is in use but has not been brought up to final grade. The 8-yard carryall was being used to complete the job until mud forced postponement of the work.

Dike at Structure No. 3. A dike, 785 feet in length, across low ground at Structure No. 3. Complete except for dressing top and slopes.

Dike at Structure No. 4. This dike, 1525 feet in length, forms a segment of the Division Road. It is in use as a channel crossing, but needs some fill in low spots and final shaping of top and banks.

Lead Lake Canal. This canal will be used to bypass water from the west to the east side of the marsh. Work on the excavation has been intermittent, and portions, which are flooded as a result of marsh overflow, are being left until water levels can be dropped. The Lima dragline excavated between stations 7+00 and 87+00, skipping 4000 feet which was under water. The Lorain dragline has excavated between station -9+00 and the headgate and at present is working between the structure and station 7+00. Part of the work being done by the Lorain consists of enlarging the old Hunter Drain Extension which is being incorporated, in part, in the Lead Lake Canal.

Structure No. 2. This 3-barrel structure, designed to hold Foxtail Lake at the 3890 elevation, is complete.

Structure No. 3. The outlet to Pool 3889, immediately below Foxtail. Complete.

Structure No. 4. The third structure in the Foxtail drainage series. This structure also serves as a bridge in the Division Road across Foxtail Channel. It is complete.

Lead Lake Canal Headgate. The concrete for this structure has been poured. Backfilling, bridging, etc., have yet to be done. At present this structure is serving only as a headgate to the Lead Lake Canal. Eventually, it will be enlarged to a 4-way structure and will then be designated as No. 11 of the marsh series of structures.

East Waterfowl Food Plot. Construction in this 430-acre combination pasture, waterfowl area, is scheduled for completion this year. The elevating grader was transferred to this area in mid-December. It started work on the contour dikes in the 160-acre uncompleted portion.

Miscellaneous. A number of miscellaneous projects have been undertaken in the Stillwater yard and shop. These include:

Remodeling of two bus bodies, received from the Sacramento Refuge, for use as temporary fur sheds.

Construction of a 10' x 12' building to house the AC light plant and air compressor.

Erection of a shelter for the electrically operated gasoline pump.

Lining of the north end of the metal shop building with 5/16" masonite.

Erection of a 1000-bushel metal grain bin.

Construction of a temporary, open-front, storage shed, 16' x 48' in size. This building was made from surplus, 8' x 16' floor panels.

Construction of a grease rack, which was only partially complete at the end of the period.

Equipment. New items of equipment include a map cabinet and a boat, both constructed on the job. The cabinet, containing 48 compartments for maps, structure plans and profiles, is too small already. The boat is canoe-type but has a flat bottom and is designed for use in shallow water, particularly in narrow marsh channels. Propulsion is by paddle.

Equipment Repair. Four major overhaul jobs were undertaken during the period.

The motor was pulled from the P&H dragline in order to install new rings and bearings. After the motor was torn down it was discovered that the camshaft was defective. Delay in receiving a new camshaft kept the machine out of operation for one month.

The service truck, formerly a 1-1/2 ton GMC dump, was fitted with a new motor after a rod went through the block.

The R-5 Caterpillar tractor is nearly ready to go again. This machine was down for several months simply because there was no immediate need for it and the mechanics were busy on other, more pressing, jobs. Then, after repairs were started, several more months were required to get delivery on parts ordered. The motor of the R-5 was almost completely rebuilt. The shaft was turned and new bushings poured, the cylinders rebored and new, oversize, pistons installed. Rebuilding of the track rollers and minor adjustments are still necessary before the machine can be put into operation. As soon as time permits we are going to start construction of a loader attachment which will operate from the dozer frame of the R-5. Most of the materials required for this attachment have been acquired. In the past we have had to load riprap material with the loader on the Farmall which has not been too satisfactory.

At the present time, the motor patrol is out of operation with the motor pulled for repairs. This job is also being held up because of slow delivery on parts.

B. Plantings

1. Aquatic and Marsh Plants

On September 13 the margin of the dry flat, the so-called "dog's head", at the north end of Foxtail Lake was planted with alkali bulrush (Scirpus paludosus). A marginal strip, approximately 30 feet in width, was seeded below the 3890 contour which is the proposed water elevation. The area seeded was about 5.5 acres. On October 8, flashboards were installed in the newly completed Strructure No. 2 thus impounding water in Foxtail Lake. By October

16 water levels had raised to such an extent that overflow had filled the Dog's Head Pond and covered the planting.

During the week of September 24 alkali bulrush seed was planted also on the dry bed of Pintail Bay. The planting consisted of a marginal strip and 28 cross strips, 30 feet wide, and on the average, 260 feet apart. Total area covered was 80 acres. Rate of planting was 29 pounds per acre.

On November 7, Pintail Bay was flooded covering the seed. Since the seed was newly harvested, this fall, we plan to dewater the unit in the spring of 1953 in order to get germination.

2. Trees and Shrubs - None

3. Upland Herbaceous Plants - None

4. Cultivated Crops

During the period there were no new cultivated crops planted, but periodic irrigation of the 100 acres in pasture was carried on until November 14.

C. Collections

1. Seed and Other Propagules - None

2. Specimens - None

D. Receipts of Seed and Nursery Stock

On October 23 approximately 8,600 pounds of sweet clover seed was received from Mud Lake Refuge in Minnesota.

Refuge personnel, Refuge Manager Giles and Biologist Marshall, made a trip to Malheur Refuge, November 19 to 21, for the purpose of obtaining 45 bushels of rye and 10 bushels of oats.

IV ECONOMIC USE OF REFUGE

A. Grazing

As covered in detail in our last report, we had over 1000 head of cattle and horses this summer on the area exclusive of private lands. Through August, September and October, most of these animals were brought in except for horses. Cattle were put back out again in limited numbers in late November and December to

forage on shadscale and greasewood twigs and leaves shed from these plants. About 20 horses fed on alkali bulrush and saltgrass in the Nutgrass Unit most of the period.

Our grazing plan was at last submitted, during the period, for approval.

B. Haying - None

C. Fur Harvest

Muskrat trapping was started on November 25 when the first permittee started setting traps. The trapping program this year was expanded to the extent of employing a second trapper. Considerable difficulty was experienced, however, in finding a man. Considerable expense and equipment are required to trap the Stillwater Marsh and few local trappers have outfits suited to this type of trapping. The second trapper did not start operations until December 2.

Skim ice handicapped the trappers from the start, and, when the freeze-up occurred on December 6, all trapping ceased.

Fur was divided with the first permittee on December 7. His total catch was 797. The second permittee had only about 50 pelts which are being held pending a possible resumption in trapping. We use the work "possible" here because he reports for his pre-induction physical on January 8.

There is no way of predicting when trapping can be resumed. Ice on the marsh seldom gets so thick that a thaw of a few day's duration will not remove, and a thaw is possible at any time during the winter.

V FIELD INVESTIGATION AND RESEARCH

A. Progress Report

Waterfowl stomachs were again collected this year for food habits analysis. Data on this and band returns will be covered in our next report.

VI PUBLIC RELATIONS

A. Public Uses

1. Hunting Use.

This is discussed under section "D Hunting". Total

hunter days is estimated at 2800.

2. Fishing Use.

Visitor days spent fishing are estimated at 2500 for the calender year. Car and party checks were used to determine the amount of this use, however, it must be admitted that the number of checks made was inadequate for close accuracy. Fishing activities were confined largely to the Millen's Landing area and to the Indian Lakes, both of which are off-the-beaten-track as far as our construction work is concerned. Therefore, it was impractical to check fishermen as part of our daily activities. The estimate made is believed to be conservative.

3. Miscellaneous Use.

Visitor days are approximately 500. Picnicing and sight seeing in general made up the bulk of this use. It is not uncommon in nice weather to see more cars on the desert than at the boat landings.

B. Refuge Visitors

The following visitors were received in Fallon during the report period:

September 10 - Thomas C. Horn, Refuge Manager and "Hank" Christensen, Maintenance Supervisor, Tule Lake Refuge, spent the day on an inspection of the concrete work being done on this Area.

September 11 - Mr. Kubichek of the Central Office spent the day on the Area taking pictures of the development work.

September 17 - Messers. Boone, Huey, Peck, Hutchinson and Jacoby spent the day on an inspection trip of the Area.

September 28 - Jim Burnam of Cold Creek at Desert Game Range, stopped by to borrow a tire for use as a spare on the return trip from Malheur with a load of grain.

October 30 - Bill Bebout, Sacramento Refuge, delivered the second bus body which is used as temporary fur shed.

November 14 - Inspection of Refuge pasture development by members of Churchill County Grand Jury in interest of TCID during morning. Party included: Phil Hilbel, Project Manager and John Konda, Board Chairman of TCID and Jury Members Jim Sloan, Henry Osgood and George Pomeroy. Were well satisfied with outcome of our pasture.

November 19 - Refuge Manager and Mrs. B. M. Hazeltine, of Sheldon Refuge, spent one-half hour on way to the Desert Game Range to take delivery of new Plymouth Suburban.

November 26 - to 28 Mr. MacDonald, Regional Refuge Supervisor, spent this time at Fallon making an inspection of the work progress at Stillwater Wildlife Management Area.

November 27 - Messrs. Groves and Nilsson, State Fish and Game Commission, MacDonald, Giles and Marshall spent the day going over the procedure to be used in making the State-Service Contributions audit and in conference on the work program and progress.

December 3 - Mr. MacDonald spent four hours on this day reviewing and discussing various work programs for refuge personnel.

C. Refuge Participation

On October 30, David B. Marshall, Wildlife Management Biologist spoke before the local Kiwanis Club on the development of the Stillwater Wildlife Management Area.

D. Hunting

Nevada had a straight season this year which began October 19 and ended December 17. In general, hunting was about the same as 1949 and 1950.

Several factors worked against the hunters while several worked for them. Muddy and flooded-out roads from our high water kept many out of their favorite hunting spots, but the Swan Lake "ike took some of the more adventuresome one to new areas. The high water prevented wading, and in general boats couldn't be taken to spots formerly waded because of intervening cattail growth. This situation prevented access to much of the marsh. To offset these difficulties , there were more birds throughout the rest of the marsh due to the fact that the Big Water and the Nutgrass Units were practically dry. The Nutgrass Unit and Big Water normally ca rry most of our ducks. This is particularly true of the Big Water which cannot be hunted. A smaller number of hunters than expected complained of the Nutgrass Unit being dry.

Hunters were aided by the accompanying map, which was run off on our duplicating machine and distributed to sporting goods stores in Reno and Fallon. Previously, most of the hunters were unaware of the new roads and dikes. Hunters, who formerly hunted via the West Road and saw little construction work accomplished,

were brought around to the center of the marsh where they could see some of the activities in progress.

The State, again, operated a checking station on the Stillwater Road. Although it was operated only on weekends this year, and some non-cooperative hunters went around it, it is estimated that 65% of the hunters were checked. The estimated number of hunters, their success ratio and birds killed since 1949 follows:

Year	Hunter Days	Kill	No. Birds Per Man Day
1949	2399	6369	2.7
1950	2570	5500	2.14
1951	2450	6468	2.64

This year's duck kill broken down by species on a percentage basis was as follows:

Species	Percent
Shoveller	25.2
Pintail	21.4
Gadwall	14.4
Mallard	12.0
GW Teal	11.6
Canvasback	4.1
Redhead	4.04
Baldpate	3.98
Ruddy Duck	1.26
Cinnamon Teal	Trace
Scaup	Trace
Bufflehead	Trace
Goldeneye	Trace
Others	Trace

The number of geese and coots actually checked was as follows:

Canada Goose (all subspecies except cackler)	99
Cackling Goose	2
White-fronted Goose	2
Snow Goose	10
Coot	26

The above figures do not cover the Indian Lakes and Pelican Island Marsh which accounted for up to ten cars on Sundays. They do cover the Canvasback Gun Club which killed roughly 1400 of the ducks.

E. Fishing Success.

This has been discussed under Public Uses of the Area.

F. Violators. None

VII OTHER ITEMS

A. Items of Interest

During the period, LeRoy W. Giles, who has been Refuge Manager, Acting in Charge, since the transfer of Mr. Horn in July, was promoted to Refuge Manager, GS-11, from his former Wildlife Management Biologist position.

David B. Marshall, during the period, received a promotion from Refuge Manager, GS-5, to Wildlife Management Biologist, GS-7.

Three times our vacant GS-5, Refuge Manager, position has tentatively been filled but each time a greater need for the man has been recognized at other Refuges and Stillwater has been bypassed - two going to Tule Lake Refuge and one to Fort Peck Game Range. Maybe we don't scream loud enough. The reason certainly could not be that Stillwater is less important than we think it is.

The Fish and Wildlife Service labor crew at the end of this period consisted of:

Manuel Olano, Mechanic, Automotive
William H. Ogden, Mechanic, Automotive
Ernest J. Brooks, Labor Leadman

At the end of the period the State construction crew, Pittman-Robertson employees on the cooperative development program, consisted of:

4 Laborers
2 Truck Drivers
1 Concrete Mixer Operator
4 Oilers
2 Tractor Operators
1 Elevating Grader Operator
1 Motor Patrol Operator
3 Dragline Operators
1 Concrete Crew Foreman
1 Warehouseman

ANAHO ISLAND NATIONAL WILDLIFE REFUGE

ANAHO ISLAND

No trips were made to the Island during the report period.

FALLON NATIONAL WILDLIFE REFUGE

FALLON NATIONAL WILDLIFE REFUGE

Most of this refuge in the Carson Sink became flooded during the latter part of the period. Some duck use of this area undoubtedly occurred, although no ducks were observed there on any of the aerial censuses made on the adjoining portion of the Stillwater Wildlife Management Area.

WINNEMUCCA NATIONAL WILDLIFE REFUGE

WINNEMUCCA LAKE REFUGE

One trip of inspection was made to Winnemucca Lake Refuge. The trip was not made until January 4, but this seems close enough to the narrative report period to warrant inclusion here.

Winnemucca Lake is dry during the warmer parts of the year but generally holds some water in the winter. We found water covering an area estimated at 5,000 acres near the north end of the Lake, which is the lowest part of the lake bottom. This water was only a few inches deep and probably represents an accumulation of seep and melted snow water maintained by a high winter water table.

No waterfowl, or shorebirds, were seen. This was to be expected since the water supply is too transient to produce vegetation of any kind.

This report was compiled by Refuge Manager Giles, and Wildlife Management Biologist Marshall.

Photograph credit:

"H" Photos - Thomas C. Horn
"T" Photos - Earl W. Nygren
"M" Photos - David B. Marshall

The following NR forms are not applicable to the Area through this report period:

NR 3 - Big Game
NR 4 - Small Mammals
NR 11 - Timber Removal

Submitted February 6, 1952

LeRoy W. Giles

LeRoy W. Giles
Refuge Manager

APPROVED:

_____

_____

WATERFOWL

REFUGE Stillwater Wildlife Management Area MONTHS OF September to December . 19 51

(1) Species	(2) First Migrants Seen		(3) Peak Concentration		(4) Last Migrants Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
1. Swans:									
Whistling swan	64	10/31	840	12/17					840
2. Geese:									
Canada goose			1200	12/7					1200
Cackling goose									
Brant									
White-fronted goose	3	10/22	3	10/22	3	10/22			10
Snow goose	60	9/27	10,000	10/31					15,000
Blue goose									
3. Ducks:									
Mallard			8000	12/17					11,000
Black Duck									
Gadwall			3200	11/15					4,000
Baldpate			1500	11/15					2,500
Pintail			20,200	10/31					23,000
Green-winged teal			5600	10/22					10,000
Blue-winged teal									
Cinnamon teal			800	9/19	10	10/31			900
Shoveller			19,000	10/22					19,000
Wood duck									
Redhead			200	10/2					300
Ring-necked duck									
Canvas-back	1	10/2	1700	10/31					1700
Scaup	3	11/7	10	11/29					10
Golden-eye	4	12/1	50	12/17					50
Buffle-head	1	10/31	50	12/7					50
Ruddy duck			300	10/8					400
									43,800
4. Coot:			30,500	9/19					

Form NR-1

3-1750
(June 1949)

(over)

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 123,760

Peak waterfowl numbers 53,163

Areas used by concentrations [illegible] Point Reservoir, Big Water and Pelican Island

Principal nesting areas this season_____

Reported by David B. Marshall

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

61365

3-1751
Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)

Refuge Stillwater W. M. Area Months of September to December 19~~4~~ 51

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. Water and Marsh Birds:										
Eared Grebe			225	9/26						300
Western Grebe			120	9/26						150
Pied-billed Grebe			800	Sept.						800
White Pelican			200	Sept.	20	12/7				200
Double-Crested Cormorant			40	10/8	18	11/7				50
Great Blue Heron			600	Sept.						600
American Egret			20	9/19						20
Snowy Egret			800	Sept.						800
Black-crowned Night Heron			500	Sept.						500
American Bittern			100	Sept.						100
White-faced Glossy Ibis			100	Sept.						100
Virginia Rail			100	Sept.						100
Sora			300	Sept.						300
II. Shorebirds, Gulls and Terns:										
Killdeer			300	Sept.						400
Spotted Sandpiper			2	9/18	2	9/18				2
Greater Yellow-legs			20	10/18	6	10/18				50
Peeps (Least & W. Sandpiper)			7000	9/1						8000
Dowitcher			300	9/26						500
Marbled Godwit			200	9/10	200	9/10				200
Avocet			1000	9/1	7	11/15				1000
Northern Phalarope			200	9/19	50	10/8				300
Ring-billed Gull			100	10/8						100
Caspian Tern			2	9/19	2	9/19				2

(over)

(1)	(2)		(3)		(4)		(5)	(6)
III. Doves and Pigeons:								
Mourning dove			100	Sept.				200
White-winged dove								
IV. Predaceous Birds:								
Golden eagle	1	9/4	1	9/4	1	9/4		1
Duck hawk								
Horned owl								
Magpie			10	Oct.				10
Raven			10	9/18				10
Crow								
Prairie Falcon			4	Oct.				4

Reported by David A. Marshall

INSTRUCTIONS

(1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Stillwater Wildlife Mgt. Area Months of September to December, 1951

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re-stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Valley Quail									50	Intermittent use of Area

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

Form NR-5 DISEASE 1616

Refuge Stillwater Wildlife Management Area Year 194x 51

Botulism

Period of outbreak July 20 - September 1; October 20

Period of heaviest losses No definite peak

Losses:

	Actual Count	Estimated
(a) Waterfowl	50	200
(b) Shorebirds		
(c) Other		

Number Hospitalized 0 No. Recovered % Recovered

(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) 2,000
Big Water and the area near junction of Navy Cabin Road and Lead Lake Canal

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.
At Big Water feather edges re-flooded from wind action, although level of Big Water was receding. Other area water level rising to a depth of 3 ft. maximum. Feather edges present here too.

Condition of vegetation and invertebrate life
Vegetation in form of aquatic growth and algae dying from lack of water at edges of Big Water. At other location,
Remarks vegetation primarily russian thistle and alkali weed which had completed growth. Invergebrates common.

Lead Poisoning or other Disease

Kind of disease Unknown

Species affected Western Grebe

Number Affected

Species	Actual Count	Estimated
	10	

Number Recovered 0

Number lost

Source of infection Unknown

Water conditions Rising

Food conditions Normal

Remarks

Form NR-6

FISH

1617

Refuge Stillwater Wildlife Management Area Year 19~~4~~ 51

Species	Relative Abundance	Sport Fishing		Commercial Fishing		Restocking		Number removed for Restocking
		Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	
Bullhead	Common	2500	10,000			None		None
White Catfish	Few		500					
Carp	Abundant				20,000*			
Large-mouth Bass	Common		1,000					
Yellow Perch	Few		100					
Sacramento Perch	Few		100					

REMARKS:

Fish taken on Public Shooting Area. Permit issued by State.

3-1757
Form NR-7
(April 1946)

PLANTINGS
(Marsh - Aquatic - Upland)

Refuge Stillwater W. M. Area Year 1951

Species	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount & Nature of Propagules	Date of Planting	Survival	Cause of Loss	Remarks
Scirpus paludosus	North Fortail	22 lbs. per acre	5.5 acres	Seed	9/13/51	?		
Scirpus paludosus	Pool 3889	34 lbs. per acre	14.5 acres	Seed	8/9	?		
Scirpus paludosus	Pintail Bay	29 lbs. per acre	80 acres	Seed	9/25 to 10/1	?		
Scirpus Olneyi	Dike slopes		Spot Planted	2000 lbs. rootstocks	4/2-3	75%	High water	

TOTAL ACREAGE PLANTED:

Marsh and aquatic 100 acres
Hedgerows, cover patches
Food strips, food patches
Forest plantings

3-1758
Form NR-8
(April 1946)

CULTIVATED CROPS

Refuge Stillwater W. H. Area Year 1951

Permittee (If farmed by refuge personnel, so indicate)	Permit No.	Unit or Location	Crops Grown	Avg. Yield per Acre	Permittee's Share		Government's Share or Return				
							Harvested		Unharvested		Compensatory Services, or Cash Revenue
					Acres	Bu. Harvested	Acres	Bu.	Acres	Bu.	
Refuge Personnel		East WF Plot	Pasture								Used by wildlife only

Summary of Crops Grown:

Crop	Acreage	Permittee's Share		Government's Share				Total Revenue
		Acres	Bushels	Harvested Acres	Harvested Bu.	Unharvested Acres	Unharvested Bu.	
Pasture	100							$ 0

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

Permittee - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the Permittee column.

Permit No. - List the number of the Special Use Permit issued to the individual.

Use or Location - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

Crops Grown - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

Average Yield per Acre - It is important that the average yield per acre of each crop grown by each operator should be shown.

Permittee's Share - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the Permittee's Share column.

Government's Share or Return - Harvested - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. Unharvested - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the Bushels column.

Compensatory Services, or Cash Revenue - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis indicate the total cash revenue received by the Service.

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Stillwater W. M. Area Months of September thru December 19~~4~~51

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS-FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Barley	383	0	383					383	293	90	0
Rye		45	45					45	45		0
Oats		10	10					10	10		0

(8) Indicate shipping or collection points

(9) Grain is stored at Headquarters yard, Stillwater Refuge

(10) Remarks

NR-8a REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lbs., Corn (ear)—70 lbs., Wheat—60 lbs., Barley—50 lbs., Rye—55 lbs., Oats—30 lbs., Soy Beans—60 lbs., Millet—50 lbs., Cowpeas—60 lbs., and Mixed—50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

(1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.

(3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.

(4) A total of Columns 2 and 3.

(6) Column 4 less Column 5.

(7) This is a proposed breakdown by varieties of grain listed in Column 6.

(8) Nearest railroad station for shipping and receiving.

(9) Where stored on refuge: "Headquarters grainary", etc.

(10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

3-1759
Form NR-9
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING STOCK
(Seeds, rootstocks, trees, shrubs)

Refuge Stillwater Wildlife Management Area Year 1951

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period or Collection	Method	Unit Cost	Amount	Source		
Scirpus paludosus seed	12,600 lb.	8-27 - 9/24	combined	.165			10,300	7,100
Sweet Clover					8,600 lb.	Mud Lake Refuge	8,600	0

3-1760
Form NR-10
(April 1946)

HAYING AND GRAZING

Refuge Stillwater Wildlife Management Area Year 1951

Permittee	Permit No.	Unit or Location	Actual Acreage Utilized	Animal Use Months	Tons of Hay Harvested	Period of Use From - To	Rate	Total Income	Remarks
None								None	

Totals:

Acreage grazed..... Animal use months..... Total income Grazing.....

Acreage cut for hay..... Tons of hay cut..... Total income Haying.....

M-225. A second look. Two years ago we highlighted one of the narrative reports with a photo of the crew. Now there are so many new smiling faces that we decided it was about time for a repeat. 9/26/51

M-229. The maiden voyage of the new Stillwater marsh boat, Louisiana pirogue style. This boat was designed for narrow marsh channels and shallow water. 11/13/51

M-248. The new grease rack; nearly complete. 1/5/52

M-231. Emergency repairs to Truckee Canal west of Fallon. Photo taken from bed of wash created by waters which poured through break. A short distance behind photographer some 300 feet of SP Railroad track was washed out. PWS HD-14, 995, in center. 12/31/51

M-222. Site of marsh structure No. 3 with part of foundation forms in place. 9/18/51

T-16. A later view of Structure No. 3 taken just before foundation was poured. Reinforcing steel in place. 9/21/51

B-226. Structure No. 3 with forms for piers and wingwalls in place. 9/26/51

T-37. The one-yard concrete bucket was used for pouring marsh Structure No. 4. 11/5/51

T-50. This went up none too soon. Our former storage building was not mouse proof, and the rodents had become immune to strychnine and 1080. 1/3/52

T-43. A typical Stillwater scene. Rain soaked soil combined with a high water table provided many pitfalls in the path of progress. 11/14/51

T-28. The Lima dragline excavating the Lead Lake Canal. The spoil bank on the left will eventually be levelled to become the Navy $C_a$bin Road. 10/5/51

T-14. Seeding a border strip of alkali bulrush. The seed was broadcast in front of the improvised drag. Shortly after the photo was made this alkali flat was flooded. 9/13/51

H-83. Duck hunters unloading a boat at the old Millen's Landing. A new landing in a different location has since been excavated by dragline. It is, at least, easier to find. 10/14/50.

T-52. Bus bodies, secured from the Sacramento Refuge, now in service as fur sheds. 1/3/52

T-51. Strictly temporary, the newly erected storage shed built almost entirely from 8' x 16' Dallas Hut floor sections. 1/3/52

M-246. A view of Portail Lake illustrating high water conditions. The near edge of the cattail growth marks the normal shoreline. 1/5/52

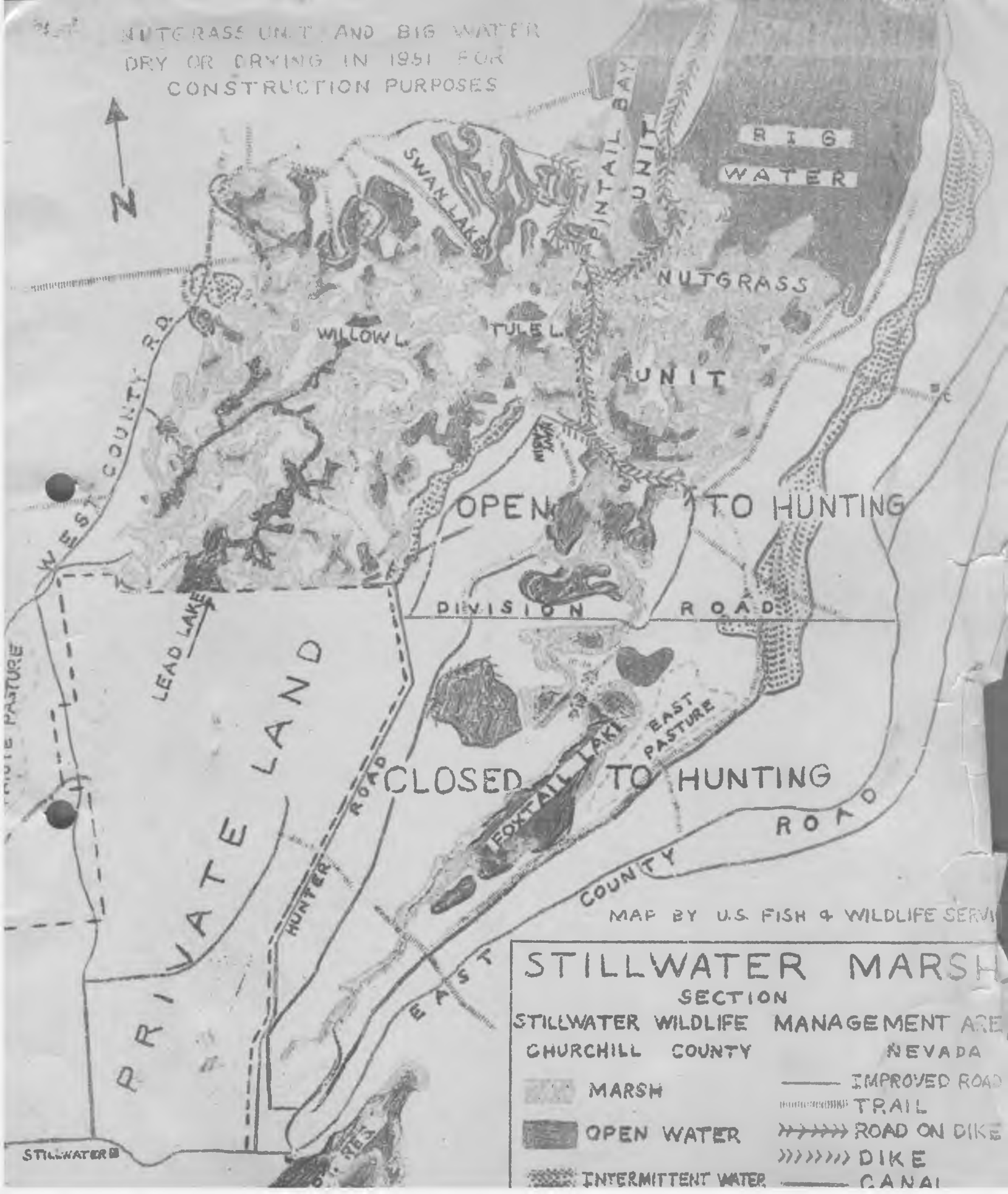
M-247. A segment of ice-covered Stillwater Point Reservoir. 1/5/52

M-239. A view of the Stillwater Marsh north of the Navy Cabin. Marsh is frozen except for channel in forepart. Several muskrat houses are to be seen. 1/5/52

M-236. Extreme north end of Winnemucca Lake bed as seen from east shore. 1/4/52

B-235. Winnemucca Ferry "afloat" on the desert. A relic of by-gone days when Winnemucca Lake held water. 1/4/52

B-232. "Igloos" of calcareous tufa adjacent to Winnemucca Lake; shells of calcium carbonate deposited over matrices of blow sand by the former lake waters. 1/4/52


NUTGRASS UNIT AND BIG WATER
DRY OR DRYING IN 1951 FOR
CONSTRUCTION PURPOSES
N
SWAN LAKE
PINTAIL BAY
UNIT
BIG
WATER
NUTGRASS
WILLOW L.
TULE L.
UNIT
WEST COUNTY RD.
OPEN TO HUNTING
DIVISION ROAD
LEAD LAKE
PRIVATE LAND
HUNTER ROAD
CLOSED TO HUNTING
FOXTAIL LAKE
EAST PASTURE
COUNTY ROAD
EAST
STILLWATER
MAP BY U.S. FISH & WILDLIFE SERVI
STILLWATER MARSH
SECTION
STILLWATER WILDLIFE MANAGEMENT ARE
CHURCHILL COUNTY NEVADA
MARSH
OPEN WATER
INTERMITTENT WATER
IMPROVED ROAD
TRAIL
ROAD ON DIKE
DIKE
CANAL